ABSTRACT

Based on the finding that m-calpain or μ-calpain degrades hepatocyte nuclear factor 4α (HNF-4α), hepatocyte nuclear factor 1α (HNF-1α) and insulin promoter factor 1 (IPF-1), which form transcription factor networks involved in expression of glucose metabolism-related genes in pancreatic β cells, the following have been provided: a method for degradation of these transcription factors; a method for inhibiting the degradation and an agent for inhibiting the degradation; a method for enhancing production of the gene product of a gene on which these factors act as transcription factors and an agent for enhancing the same; an agent for preventing and/or treating a disease attributable to the degradation of these transcription factors and a method for preventing and/or treating the disease; a method for identifying a compound that inhibits the degradation of these transcription factors by calpain; a compound obtained by the identification method; and a reagent kit including calpain, these transcription factors, polynucleotides encoding these factors, and a vector containing the polynucleotides.